
## Looking for **expertise?**

Are you contemplating the use of MEMS devices in your system in order to create a sustainable competitive advantage? When your current solution just doesn't seem to do the trick, a custom MEMS might be worthwhile investigating. How feasible would custom MEMS be for you? **Pleased to meet you!**

When you need a custom MEMS device for your system, you can rely on our experts. Their expertise is to really understand your requirements, to show feasibility and proof of concept, develop the product and required process in a phase-gated manner and reproduce it in a reliable and controlled way.

Customers value the flexibility in working together, our responsiveness to change requests and our ability to provide creative out-of-the-box solutions for the "seemingly impossible" – a capability developed from working with Philips Research for 40 years. Supporting innovation end-to-end, we can help improve your time-to-market by a multitude of back-end services & integration services. From testing and bumping, wire bonding, chip stacks to micro assemblies, but also electronics, software, optics, reliability testing etc..

Talk to us, and explore what a custom MEMS can mean for you.

**Certified for**

ISO 13485 | ISO 9001 | ISO 14001

**NPS**
**>50%**

**Customer satisfaction of 4.5/5**

**10,000 m² infrastructure**

test & prototyping facilities, cleanrooms, labs

# MEMS foundry services

## Creative out-of-the-box solutions for the 'seemingly impossible'

### MEMS proof-of-concept services

When you have an innovative idea for a MEMS device, you need to quickly assess its feasibility. Our technologists and engineers bring years of research experience to your project and can play an active role in your creative process. We work with you and your idea to deliver the designs, first prototypes and early feedback on manufacturability. And with the concept proven, you can move on to the next step: Process development.

## Your devices manufactured to your requirements with constant quality

### MEMS manufacturing services

For devices that require higher volumes or quality levels, the development phase is succeeded by an engineering and industrialization phase, to iron out any significant quality or yield issues. We run your customized process flow and manufacture your devices according to your specifications and order. Volumes typically range from 10 – 1000 wafers per year. For very high volumes we support process transfer to other foundries.

## Your MEMS concept developed into a manufacturable device

### MEMS process development

You need a way to manufacture your proven product concept with consistent quality, to realize its true business potential. A focused process development brings just that. You get a mature process flow, yielding custom devices according to your requirements for functionality, performance, quality, yield and cost. Following a phase-gated approach, we systematically develop process and device. Intermediate deliverables include project planning and progress reports, as well as well-documented samples of increasing levels of maturity. For medical applications we are certified to work under ISO13485.

## Complement your process capabilities with our rich expertise and tool kit

### Thin film processing

You get enriched substrates, with structures according to your needs. This can be in single units or volumes up to one thousand per year, and involve a single layer or a complex and structured stack. We manufacture to your requirements using our state-of-the-art tools. We can employ a wide variety of materials (Ag to Zn, polymers, PDMS) and substrates (Si, III/V, glass, square and round, up to 8").

## A full set of complementing services geared to bring your innovations to the market

### MEMS back-end services

Your successful product launch may require more than just MEMS foundry services. You benefit from our additional MEMS back-end services; all under one roof. No need to search for additional partners to bring your product to market. We offer a large suite of back-end and integration services such as electronic design and lay-outing, micro and PCB assembly & testing, software, optics, material analysis, reliability and testing.

### Foundry facts

- 2650 $m^2$ state-of-the-art cleanroom of class 100 – 10,000
- Large set of 150mm and 200mm state-of-the-art tools
- Flexibility to work with materials ranging from Ag to Zn, including 'CMOS-forbidden' materials, alloys, dielectrics, and polymers like Parylene
- Flexibility to work with substrates: Si, III/V, glass; square and round; up to 8"

Detailed info on the foundry toolkit can be found on our website.

# Micro-assembly services

## The combination of odd shape and non-conventional substrates offer new opportunities

### Interconnect architecture & prototyping

Your concept typically requires the integration of active elements and electrical functionality by a variety of more than 2D interconnect & bonding technologies. With our know-how, experience and systematic approach, we have the flexibility to manufacture prototypes and are able to develop a reliable and optimized production flow for your unique product.

## Benefit from Philips collected knowledge of electronics manufacturing

### Industrial PCBA prototyping

Your electrical design needs to be further developed into a device to prove its function and value in the market. With over 30 years of experience in prototyping & assembly and our industrial production equipment base in our pilot factory called 'Greenhouse', we are able to ensure quality from the first prototypes onwards and to start a fast and steep learning curve to industrial standards.

## Receive products with constant quality & high yield allowing you to realize true business potential

### Assembly of high-end PCBA's

You can focus on the development of your business, knowing you can rely on a highly qualified ISO 13485 certified production environment and a backbone of highly qualified engineers. We manufacture high-end PCBA's according to standard process flows. With our broad range of test and inspection equipment, we tune the flow according to the specific product requirements and guarantee assembly quality.



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www.innovationservices.philips.com/mems

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